Xymedon conjugate with biogenic acids. Antioxidant properties of a conjugate of Xymedon with L-ascorbic acid *

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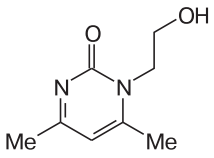
Antiradical activity and antioxidant properties of a conjugate of Xymedon with L-ascorbic acid were studied. In contrast to Xymedon, a conjugate of Xymedon with L-ascorbic acid was found to react with free radicals. Pro-oxidant activity of the conjugate of Xymedon with L-ascorbic acid in a chemiluminescence system is weaker as compared to individual L-ascorbic acid. This is the evidence of the increase in the stability of ascorbic acid upon conjugation with a molecule of Xymedon. Conjugate of Xymedon with L-ascorbic acid facilitates the decrease in the concentration of a lipid peroxidation product (malondialdehyde) and the activity of superoxide dismutase in liver and serum of laboratory animals exposed to intoxication with a known hepatotropic toxin CCl_4. This observation shows the contribution of the antioxidant action to the hepatoprotective effect of the studied Xymedon derivative.

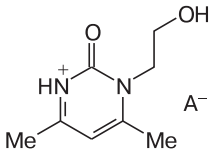
Key words: pyrimidines, antiradical activity, toxic liver injury, ascorbic acid, antioxidant activity.

Pyrimidine derivatives attract attention due to their ability to stimulate tissue regeneration. Among them, Xymedon (1-(2-hydroxyethyl)-4,6-dimethyl-1,2-dihydropyrimidine-2-one) is a known medicine with considerable regenerative and reparative properties,[1] which is successfully used in clinical practice for treatment of burn wounds and other pathological states, as well as in the post-operative period.[2—5] In our earlier studies,[6,7] we revealed hepatoprotective activity of Xymedon, and, in particular, the decrease in pathomorphological changes in liver and normalization of biochemical markers of liver disease.

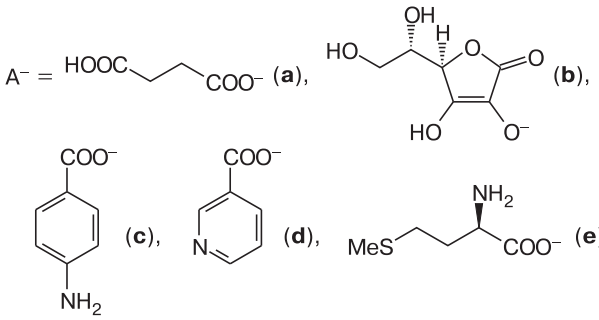


Xymedon

In recent publications,[8—10] chemical modification of therapeutic drugs, and conjugation in particular, is regarded as a way to increase their bioavailability and efficiency. Earlier, in our publication[11] we reported the synthesis of Xymedon complexes **1a—e** with biogenic acids, namely, succinic, ascorbic, *p*-aminobenzoic, nicotinic, and L-2-amino-4-(methylthio)butanoic (L-methionine) acids.



1a—e



These biogenic acids were chosen for preparation of Xymedon complexes **1a—e** since they are common me-

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